Honeybee Pests and Diseases
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Disease/Pest	Causal Organism	Type of Pathogen	Effects on Honey Bees	Prevention/Management
American foulbrood	*Bacillus larvae*	Bacterium	Lethal and highly infectious disease of larvae. Often the most important disease of honey bees.	Apiary hygiene, early detection; antibiotics (oxytetracycline) used as a preventative – antibiotic resistance is of concern; Shake, Requeen and Burn method; select for hygienic behavior
European foulbrood	*Melissococcus plutonius*	Bacterium	Lethal disease of very young larvae.	Apiary hygiene, early detection; antibiotics (oxytetracycline) used as a preventative – antibiotic resistance is of concern; Shake, Requeen and Burn method; select for hygienic behavior
Nosema	*Nosema apis*	Protozoan	Disrupts digestive system of adult bees producing reduced vigor and activity.	Maintain strong colonies, replace old comb regularly (brood frames at least every 5 years); winter site selection; Fumagilin-B – may exacerbate the disease
Nosema	*Nosema ceranae*	Protozoan	Disrupts digestive system of adult bees producing reduced vigor and activity. A relatively recently identified disease that originated from the wild Asian honey bee (*Apis cerana*).	Maintain strong colonies, replace old comb regularly (brood frames at least every 5 years); winter site selection; Fumagilin-B – may exacerbate the disease
Chalkbrood	*Ascosphaera apis*	Fungus	Fungal disease of the gut of larvae. Often lethal but generally considered a minor disease.	Maintain strong colonies, replace old comb, select for hygienic behavior

Acute paralysis disease/Israeli acute paralysis disease		Virus	Two of the more widespread viral diseases of adult honey bees. Infections may lead to stress and reduced vigor that weaken colonies.	General good bee management including keeping the mite level very low in the hive
Deformed wing virus		Virus	Virus disease first described in the early 1980s that has increased sharply in incidence in recent years and spread widely, along with its primary vector, *Varroa destructor*. The virus prevents normal wing development.	General good bee management including keeping the mite level very low in the hive
Sacbrood		Virus	A disease of late stage larvae. Often lethal but generally considered a minor disease.	General good bee management including keeping the mite level very low in the hive

Varroa mite	*Varroa destructor*	Mite	A large, external parasite of larvae, pupae and adults. Debilitating growth irregularities result from infestation of developing larvae. Some viruses are vectored by this mite. A devastating and recent parasite of the honey bee. Varroa mite originated from the Asian honey bee (*Apis cerana*), on which it is a minor pest.	Select for hygienic behavior, drone brood removal, screened bottom boards, Apiguard, ApiLife VAR, Formic Acid, Hopguard, essential oils?
Tracheal mite	*Acarapis woodi*	Mite	A minute mite that infests the tracheae of adult bees, producing stresses. One result from heavy colony infestation is reduced ability to survive winter.	Apiguard, ApiLife VAR, Formic Acid, Hopguard, essential oils?
Small hive beetle	*Aethina tumida*	Beetle	Native to sub-Saharan Africa the small hive beetle was first found in the United States in 1996. Larva feed on stored pollen, honey and comb.	Not a problem in Montana yet; do not move equipment from areas of concern (south) to Montana

Wax Moths	*Galleria mellonella, Achroia grisella*	Moth	Larvae ingest and form tunnels in wax comb.	Maintain strong colonies, clean equipment, store equipment appropriately (cold buildings); rarely a problem in Montana
Mice (Deer Mice)	*Peromyscus maniculatus*	Mouse	Nest in hives and feed on comb and honey.	Reduce colony entrance in early fall though winter
Skunks and Bears			Eat bees and the honey	Electric fence around the apiary